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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/768,504 01/25/01 PRIEGNITZ

R P00,1841

MMC2/1107

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EXAMINER

LAXTON, G

ART UNIT

PAPER NUMBER

2838

DATE MAILED:

11/07/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/768,504

Applicant(s)

PRIEGNITZ ET AL.

Examiner

Gary L. Laxton

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2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the **first and second rectifiers with their gates connected to the second lead of the secondary** must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5 and 12-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5:

Claim 5 recites "said rectifier" line 2. Unclear which said rectifier is being referenced.

Claim 12:

Claim 12 is misdescriptive. Claim 12 recites the first and second rectifier gates being connected to the second terminal of the secondary. Clearly, one gate is coupled to the first terminal through one of the clamping transistors and one gate is coupled to the second terminal through the other clamping transistor. Claims 12-15 inherit the same deficiencies.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 and 3-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Bowman et al.

Bowman et al discloses, figure 1, a power converter having an input and output and a method of operating the power converter. The power converter includes a power transformer having primary and secondary windings and a power switch coupled to the input and configured to impress an input voltage across the primary winding. The power converter further includes a hybrid synchronous rectifier coupled to the secondary winding and

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including first and second synchronous rectifier switches. The power converter still further includes a separate drive winding wound on the power transformer and coupled between the first and second synchronous rectifier switches. The separate drive winding is configured to alternately energize the first and second synchronous rectifier switches.

7. Claims 1-6, 9 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Farrington et al.

Farrington discloses a self-driven synchronous rectifier circuit (42) for a power converter. The circuit comprises a transformer (49, 70) having a secondary winding with a first and second terminal, a first synchronous rectifier (14) coupled to the second transformer terminal and having a control terminal, and a second synchronous rectifier (16) coupled to the first transformer terminal and having a control terminal. The circuit (42) also comprises a first switch (44) coupled to the first synchronous rectifier (14) control terminal, and a second switch (46) coupled to the second synchronous rectifier (16) control terminal. The first (44) and second switch (46) are also coupled to the secondary winding. Switching transitions of the first (14) and second (16) synchronous rectifiers are initiated by a

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polarity reversal of the voltage of the secondary transformer winding.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 7, 8 and 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farrington in combination with Bowman et al.

Claims 7 and 8:

Farrington discloses the claimed invention as stated above with respect to claim 1 except for the claimed filter components and connections.

Bowman et al teach connecting inductors to the outputs for filtering furthermore, Bowman teach additional filtering with an added capacitor. Therefore, it would obvious to one having ordinary skill in the art at the time the invention was made to utilize plural inductors and an additional capacitor for filtering purposes in order to provide a highly desired smooth output voltage or output current.

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Claims 10-15:

Farrington disclose the claimed invention except for a voltage source connected to the gates of the first and second rectifiers.

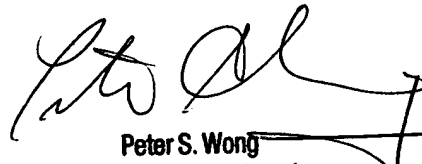
Bowman teach a voltage source V_s is shown and is used to provide a bias voltage to the first and second voltage limit switches 109, 108. the voltage source V_s is used to turn the channel of the voltage limit switches 108 and 109 on and off respectively. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a voltage source to bias the clamping transistors in order to coordinate switching.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary L. Laxton whose telephone number is (703) 305-7039. The examiner can normally be reached on 5-4-9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter S. Wong can be reached on (703) 305-3477. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7723 for regular communications and (703) 305-7723 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Peter S. Wong
Supervisory Patent Examiner
Technology Center 2800

GLL
November 5, 2001